



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
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D212-664-101
Job Sheet 201479



Part No: D212-664-101

Job Qty: 1 pcs

Part Name: Fwd Crosstube - High



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 10/4/19

Job Tracking No:

Due Date: 11/15/19

Created By: Marie Lajeunesse

Type: SOLD

Description: SIOP

Note: D212-664-141 REV E/ IIN-D212-664 REV.J IPP Rev:E 04.02.16 Reformat KJ/DS IPP Rev:F 06-03-29 Remove Coments on Pick List JLM IPP Rev:G 07-04-30 As per Rev C JLM IPP Rev:H 11.04.26 inspection strip ecn 11-549 EC verf by:DD IPP REV:I 14.05.27 AS PER ECN 14-570 DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
120	Crosstubes - Bend - 1	1 pcs		11/15/19	0.50	1.00	Crosstubes - Bend		TW
130	QC 15	1 pcs		11/15/19	0.00	0.00	QC 15 - 12		
							QC 15 - 3		
							QC 15 - 47		
							QC 15 - 49		
							QC 15 - 58		
							QC 15 - 9		
							QC 15 - 68		
140	Crosstubes - 2 - B4B	1 pcs		11/15/19	0.00	1.00	Crosstubes - 1 - B4B		
							Crosstubes - 2 - B4B		
							Crosstubes - 3 - B4B		
							Crosstubes - 4 - B4B		
150	Crosstubes - 3 - B4B	1 pcs		11/15/19	0.00	0.50	Crosstubes - 1 - B4B		
							Crosstubes - 2 - B4B		
							Crosstubes - 3 - B4B		
							Crosstubes - 4 - B4B		
160	QC 7	1 pcs		11/15/19	0.00	0.00	QC 7 - 10		
							QC 7 - 13		
							QC 7 - 14		
							QC 7 - 15		
							QC 7 - 17		
							QC 7 - 18		
							QC 7 - 19		
							QC 7 - 2		
							QC 7 - 28		
							QC 7 - 3		
							QC 7 - 30		
							QC 7 - 34		
							QC 7 - 36		



Container No: S234465



Part: D212-664-101

Job No: 201479

Serial No/Batch: S234465

Revision: E/J

Inspector:

Exp Date:

Instructions: TC STC SH01-9 Issue 3, FAA STC SR01298N

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CANADA
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					QC 7 - 37	
					QC 7 - 41	
					QC 7 - 47	
					QC 7 - 48	
					QC 7 - 51	
					QC 7 - 58	
					QC 7 - 59	
					QC 7 - 60	
					QC 7 - 9	
					QC 7 - 68	DAS NOV 28 2019 68
					QC 7 - 50	9-89
					QC 7 - 67	
					QC 7 - 40	
					QC 7 - 24	
					QC 7 - 43	
					QC 7 - 61	
					QC 7 - 81	
					QC 7 - 76	
					QC 7 - 79	
					165 QC 5	1 pcs
QC 5 - 12						
QC 5 - 17						
QC 5 - 18						
QC 5 - 19						
QC 5 - 22						
QC 5 - 24						
QC 5 - 3						
QC 5 - 43						
QC 5 - 49						
QC 5 - 51						
QC 5 - 58	DAS					
QC 5 - 68	NOV 28 2019 68					
QC 5 - 9	9-89					
QC 5 - 50						
QC 5 - 30						
QC 5 - 40						
QC 5 - 61						
QC 5 - 81						
170 Outsource - 2 - NDT per QSI038	1 pcs	11/15/19		SKY002-VC		
180 Packaging 2-1 - Receive - B4B	1 pcs	11/15/19	0.00 0.00	Packaging 2 - 1 - B4B		
				Packaging 2 - 2 - B4B		
				Packaging 2 - 3 - B4B		
				Packaging 2 - 5 - B4B		
				Packaging 2 - 4 - B4B		
				Packaging 2 - 6 - B4B		
				Packaging 2 - 7 - B4B		
				Packaging 2 - 8 - B4B		
				Packaging 2 - 9 - B4B		
				Packaging 2 - 10 - B4B		
				Packaging 2 - 11 - B4B		
				Packaging 2 - 12 - B4B		
				Packaging 2 - 13 - B4B	NOV 29 2019	
				Packaging 2 - 14 - B4B		
				Packaging 2 - 15 -		
					Plex 10/4/19 10:50 AM Dart.lajeunesse.marie	

				B4B	
				Packaging 2 - 16 - B4B	
				Packaging 2 - 17 - B4B	
				Packaging 2 - 18 - B4B	
				Packaging 2 - 19 - B4B	
				Packaging 2 - 20 - B4B	
				Packaging 2 - 21 - B4B	
				Packaging 2 - 22 - B4B	
				Packaging 2 - 23 - B4B	
				Packaging 2 - 24 - B4B	
				Packaging 2 - 25 - B4B	
				Packaging 2 - 26 - B4B	
				Packaging 2 - 27 - B4B	
				Packaging 2 - 28 - B4B	
				Packaging 2 - 29 - B4B	
				Packaging 2 - 30 - B4B	
				Packaging 2 - 31 - B4B	
				Packaging 2 - 32 - B4B	
				Packaging 2 - 33 - B4B	
				Packaging 2 - 34 - B4B	
				Packaging 2 - 35 - B4B	
				Packaging 2 - 36 - B4B	
190 QC 5	1 pcs	11/15/19	0.00 0.00	QC 5 - 10	
				QC 5 - 12	
				QC 5 - 17	
				QC 5 - 18	
				QC 5 - 19	
				QC 5 - 22	
				QC 5 - 24	
				QC 5 - 3	
				QC 5 - 43	
				QC 5 - 49	
				QC 5 - 51	
				QC 5 - 58	
				QC 5 - 68	
				QC 5 - 9	
				QC 5 - 50	
				QC 5 - 30	
				QC 5 - 40	
				QC 5 - 61	
				QC 5 - 81	
200 Spray Paint - 2 - B4B	1	11/15/19	0.00 0.25	Spray Paint - 1 - B4B	

			pcs		Spray Paint - 2 - B4B	
					Spray Paint - 3 - B4B	
					Spray Paint - 4 - B4B	
210	QC 14	1	11/15/19	0.00 0.00	QC 14 - 15	
			pcs		QC 14 - 2	
					QC 14 - 34	
					QC 14 - 41	
					QC 14 - 51	
					QC 14 - 58	
					QC 14 - 59	
					QC 14 - 9	
					QC 14 - 68	
					QC 14 - 40	
					QC 14 - 19	
					QC 14 - 43	
					QC 14 - 24	
					QC 14 - 61	
					QC 14 - 81	
220	Crosstubes - 4 - B4B	1	11/15/19	0.00 1.69	Crosstubes - 1 - B4B	
			pcs		Crosstubes - 2 - B4B	
					Crosstubes - 3 - B4B	
					Crosstubes - 4 - B4B	
230	QC 5	1	11/15/19	0.00 0.00	QC 5 - 10	
			pcs		QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	
					QC 5 - 9	
					QC 5 - 50	
					QC 5 - 30	
					QC 5 - 40	
					QC 5 - 61	
					QC 5 - 81	
240	Packaging 1-1 - Pick Kit - B4B	1	11/15/19	0.00 0.00	Packaging 1 - 1 - B4B	
			pcs		Packaging 1 - 2 - B4B	
					Packaging 1 - 3 - B4B	
					Packaging 1 - 4 - B4B	
					Packaging 1 - 5 - B4B	
					Packaging 1 - 6 - B4B	
					Packaging 1 - 7 - B4B	
					Packaging 1 - 8 - B4B	
					Packaging 1 - 9 - B4B	
					Packaging 1 - 10 - B4B	
					Packaging 1 - 11 - B4B	
					Packaging 1 - 12 - B4B	
					Packaging 1 - 13 - B4B	
					Packaging 1 - 14 - B4B	

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DEC 06 2019 58
9-89

DAS

DEC 05 2019 41
9-89

DAS

DEC 09 2019 68
9-89

				Packaging 1 - 15 - B4B	
				Packaging 1 - 16 - B4B	
				Packaging 1 - 17 - B4B	
				Packaging 1 - 18 - B4B	
				Packaging 1 - 19 - B4B	
				Packaging 1 - 20 - B4B	
				Packaging 1 - 21 - B4B	
				Packaging 1 - 22 - B4B	
				Packaging 1 - 23 - B4B	
				Packaging 1 - 24 - B4B	
				Packaging 1 - 25 - B4B	
				Packaging 1 - 26 - B4B	
				Packaging 1 - 27 - B4B	
				Packaging 1 - 28 - B4B	
				Packaging 1 - 29 - B4B	
				Packaging 1 - 30 - B4B	
				Packaging 1 - 31 - B4B	
				Packaging 1 - 32 - B4B	
				Packaging 1 - 33 - B4B	
				Packaging 1 - 34 - B4B	
				Packaging 1 - 35 - B4B	
				Packaging 1 - 36 - B4B	
250 QC 4	1 pcs	11/15/19	0.00 0.00	QC 4 - 28	
				QC 4 - 58	
				QC 4 - 69	
				QC 4 - 9	
				QC 4 - 46	
				QC 4 - 68	
				QC 4 - 72	
				QC 4 - 74	
				QC 4 - 75	
				QC 4 - 78	
260 Packaging 3-1 - Stock - B4B	1 pcs	11/15/19	0.00 0.00	Packaging 3 - 1 - B4B	
				Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	

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DEC 09 2019

				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	DAS 78 DEC 09 2019
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
265	DC - 1 - B4B	1	11/15/19	0.00 0.00	DC - 1 - B4B
		pcs			DC - 2 - B4B
270	QC 21 - FG	1	11/15/19	0.00 0.00	QC 21 - FG - 21
		pcs			QC 21 - FG - 70
					QC 21 - FG - 53

Part Op 120 - Bend tube as per Dwg D212-664-141 using CNC bender program 212-fw and Folio D212-664-141
 Descriptions: 130 - (QC15- Crosstube Dimensional Check)

140 - "1-Drill pilot holes in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549, using drill table DT8577, set-up towers in hole #7 as per QSI 10 2-Ream hole to finish size in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes. 3-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-141 4-*** WEAR LATEX GLOVES WHEN HANDLING

CROSSTUBE*** Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141"

150 - HandFinish5 (Crosstubes Chemical Conversion) ***IMMEDIATELY AFTER GRINDING***

160 - (QC7-Inspect Chemical Conversion Coat)

165 - QC5- Inspect part completeness to step on W/O)

170 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order

180 - (Receive & Inspect for Damage & Mat'l Certs) Ensure copy of NDT results attached to work order.

190 - (QC5- Inspect part completeness to step on W/O) *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Inspect for damage & ensure results are as per Dwg D212-664-141

200 - (Spray Paint / NDT Room) *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** 1-Prime inside & outside crosstube as per QSI 005 4.2 BATCH: 5187223 2- After painting remove masking and apply matte clear coat per QSI005 4.2 3- MASK UNDERSIDE OF CROSSTUBE AS SHOWN ON DWG BEFORE PAINTING 4 -Paint Outside of Tube as per Dart QSI 005 4.2 clear 5187223 paint 523052

210 - (QC14- Inspect Spray Paint) Then,Wrap in plastic bag to protect from scratches

220 - *****LAY DOWN CROSSTUBE ON TABLE AND PUT DT10302 PINS IN SADDLE HOLE FACING UP, USE HOLE IN TAPE MESURE TO PUT IN PINS FOR LOCATING CENTER OF CROSSTUBE. ***** 1- Abrade mating surfaces of support and crosstube with 180 grit sandpaper, clean the area with MEK or equivalent as per dwg 2- Install supports with Proseal 890 per D212-664-141 and QSI 015 A/R Proseal 890 Batch: 5229895 EXP: 7/20

PROSEAL CURE TIME 72 HOURS: Start: 19-12-5 Finish: 19-12-8 3- Install clamps with rubber cushion (ENSURE CLAMPS ARE INSTALL ON TOP SIDE OF CROSSTUBE) using DT9565 as per Dwg D212-664-141. ***Torque all clamps to 80-100 IN-LBS.***

230 - (QC5- Inspect part completeness to step on W/O) ***RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED FOR 72HOURS AS PER DWG.***

240 - (Pick Kit)

250 - QC4- 100% Inspect kits for completeness) ***VERIFY BY _____ BATCH # TO MATCH W/O

260 - (Identify as per dwg & Stock Location: _____) Identify and pack for shipping as per PPP D212-664-101 Location : FG094

265 - Photocopy bluefile and create labels as per PPP D212-664-101 CHG007

270 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D212-664-101TRN	Crosstube Turning Detail	1 pcs (1 ea)	120-Crosstubes - Bend - 1	<u>5211872</u>
D2893-1	Support	2 pcs (2 ea)	220-Crosstubes - 4 - B4B	<u>5226430</u>
D3595-063-450	Rubber Cushion 0.63" Wide X 4.50" Long	4 pcs (4 ea)	220-Crosstubes - 4 - B4B <u>5217157(1)</u>	<u>5217157(1)</u>
MS21920-25	Clamp	4 Ea (4 ea)	220-Crosstubes - 4 - B4B <u>5184960</u>	<u>5203212</u>
AN6-35A	Bolt	4 Ea (4 ea)	240-Packaging 1-1 - Pick Kit - B4B	<u>5088337</u>
AN6-36A	Bolt	4 Ea (4 ea)	240-Packaging 1-1 - Pick Kit - B4B	<u>5140404</u>
D3428-1	Placard	1 pcs (1 ea)	240-Packaging 1-1 - Pick Kit - B4B	<u>5140317</u>
MS21042L6	Nut	6 Ea (6 ea)	240-Packaging 1-1 - Pick Kit - B4B	<u>5232552</u>
NAS1149D0663J	Washer	18 Ea (18 ea)	240-Packaging 1-1 - Pick Kit - B4B	<u>5222093</u>

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
120-Crosstubes - Bend - 1	D212-664-101TRN	1	5	0
220-Crosstubes - 4 - B4B	D2893-1	2	17	0
	D3595-063-450	4	55	0
	MS21920-25	4	91	0
240-Packaging 1-1 - Pick Kit - B4B	AN6-35A	4	19	0
	AN6-36A	4	7	0
	D3428-1	1	5	0
	MS21042L6	6	112	0
	NAS1149D0663J	18	135	0

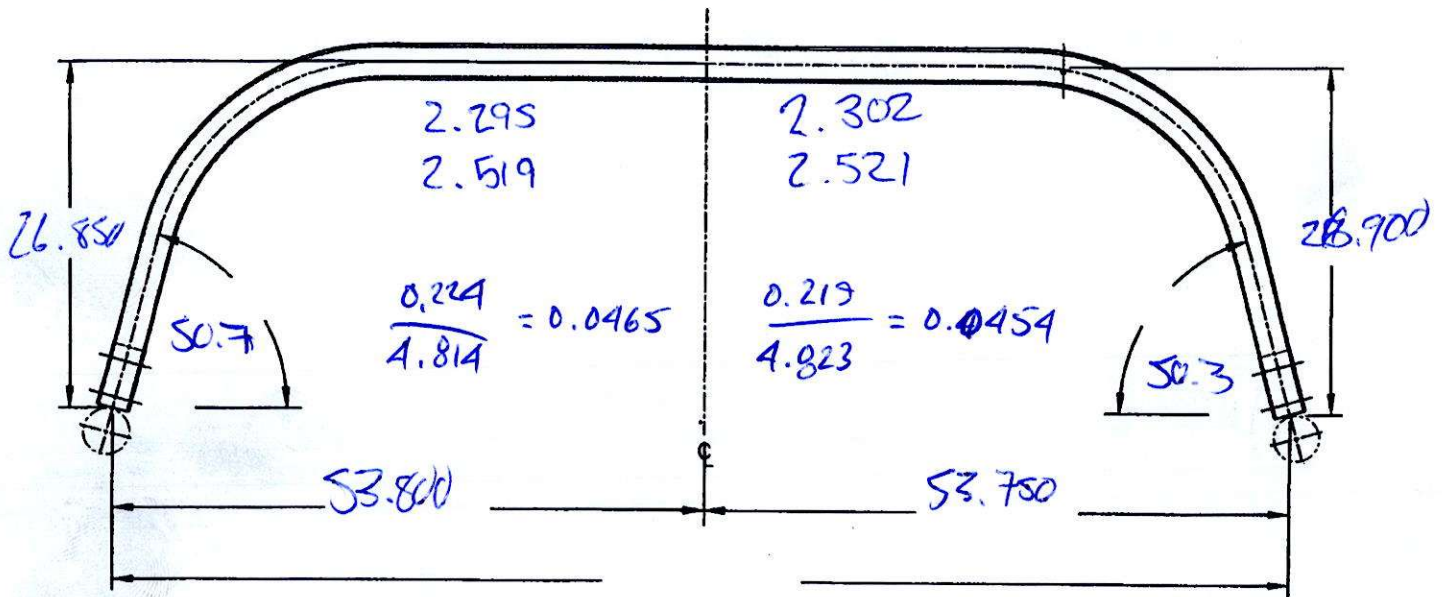
Part Specifications

Specifications could not be found.

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DART AEROSPACE LTD		Work Order:	201479
Description: Crosstube High Fwd (205/212/412)		Part Number:	D212-664-101
Inspection Dwg: D212-664-141 Rev: E		Page 1 of 1	

Required Dimension	Min	Max
Height	26.67	27.17
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.7
Bending Passes	3	--
Crushing	--	7.2%



	Side A	Side B
Bending Passes	5	5
Crushing	4.6%	4.5%
Comments		

QC15 Inspection	DAS
Date	68
	NOV 28 2019

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	08.04.21	Dwg Rev updated	KJ/JM	
C	10.04.01	Dwg Rev updated	KJ	
D	12.04.16	Added bending, crushing dimensions	KJ	
E	14.07.28	Revised max crushing %	KJ	
F	16.01.15	Revised Height min/max dimensions	KJ	

Item	Qty -141	Qty -141B	Qty -141F	Part Number	Description
1	X			D212-664-141	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)
2		X		D212-664-141B	CROSSTUBE ASSEMBLY (214 HIGH FWD)
3			X	D212-664-141F	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD) (ANODIZED)
4	1	1	1	D6005-128	CROSSTUBE
5	2		2	D2893-1	SUPPORT
6	4	4	4	D3595-063-450	RUBBER CUSHION
7		2		D5017-1	SUPPORT
8	4	4	4	MS21920-25	CLAMP (OR MS21920-26)
9	A/R	A/R	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

GENERAL NOTES:

- MATERIAL: MANUFACTURED FROM D6005-128
FINISHED LENGTH = 126.514±0.020
- FINISH -141 & -141B: a) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
b) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
c) MASK UNDERSIDE OF CROSSTUBE AS SHOWN (ZN C6-2 / C6-3, HATCHED AREA)
d) PAINT OUTSIDE PER DART QSI 005 4.2
e) REMOVE MASKING AND APPLY MATTE CLEAR COAT

- FINISH -141F: a) ANODIZE PER MIL-A-8825, TYPE II, CLASS 1.
b) ALODINE (DO NOT ETCH) PER QSI 005 4.1.2
c) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
d) MASK UNDERSIDE OF CROSSTUBE AS SHOWN (ZN C6-2 / C6-3, HATCHED AREA)
e) PAINT OUTSIDE PER DART QSI 005 4.2
f) REMOVE MASKING AND APPLY MATTE CLEAR COAT

*NOTE: BETWEEN FINISHING OPERATIONS EXTREME CARE MUST BE TAKEN NOT TO CONTAMINATE OR DAMAGE FINISHED SURFACES.

- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS
- WEIGHT: D212-664-141/-141B/-141F = 33.6 lbs
- PART IS SYMMETRIC ABOUT CENTERLINE.
- EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

MACHINING

- RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.

BENDING

- BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 7.2% (BASED ON O.D.) IN LOWER HALF OF R35.5 BEND AND 6% (BASED ON O.D.) ON REMAINING TUBE.
- LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.

ASSEMBLY

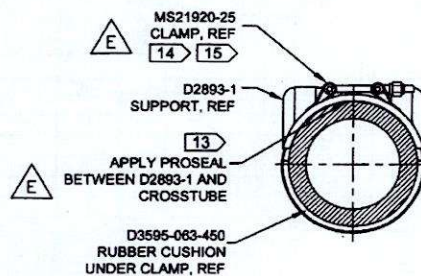
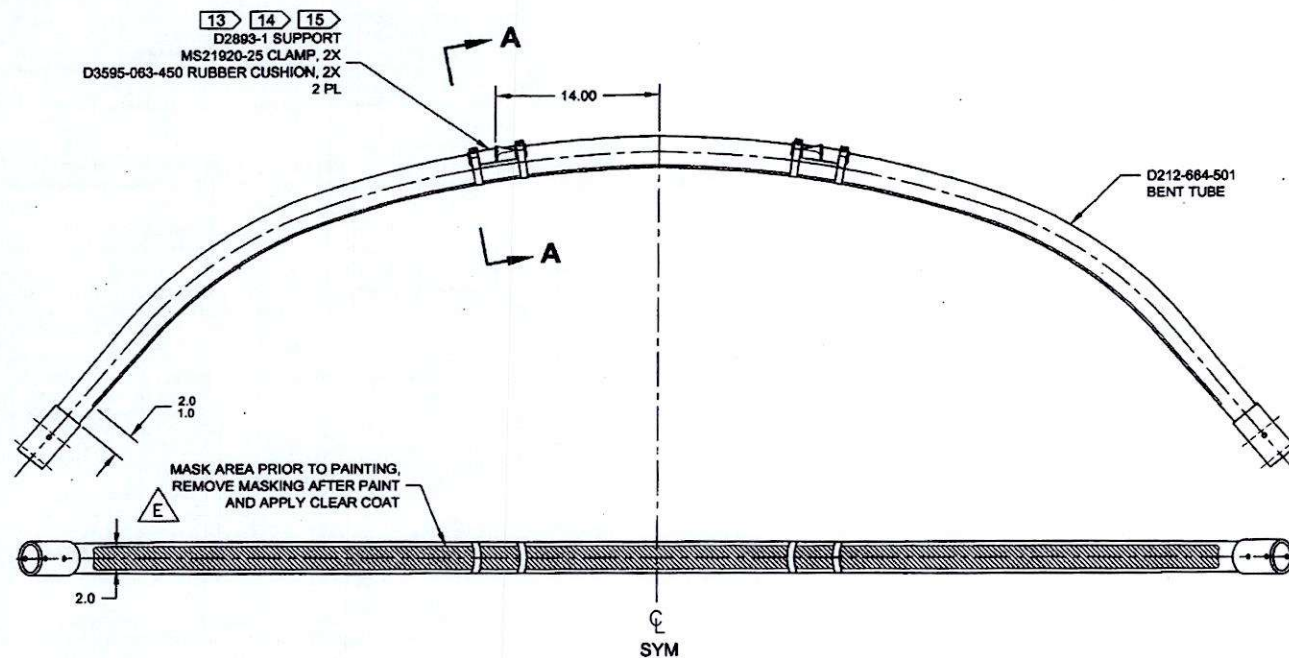
- TO INSTALL D2893-1 / D5017-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE ON TOP SIDE OF CROSSTUBE.
- TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 201479 HUS
19-10-04

RELEASED
2014-05-26
WD

E	ADD -141F, D5017-1 WAS D2893-1 (-141B), PROSEAL WAS MAGNOBOND, NOTE 2: ADD INSPECTION WINDOW, NOTE 11: ALLOW 7.2% CRUSH, NOTE 15: ADD 72HR CURE AND RETORQUE FOR PROSEAL, ADD SHEET 3, CLAMPS REVERSED TO PREVENT CHAFING (B7-2, B7-3), BEND HEIGHT TOL. NOW 0.25 WAS 0.13 (C1-3), INCORP. DEC D-11-2/3	CP	14.04.01
D	REFORMAT/REVISE GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -141B (ZN B4-2, D4-2); REMOVED REF & ADD TOLERANCES (ZN B4-3, C6-3, C8-3 & B6-3); RELOCATED FLAG #6 PER PAR 08-046 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4	RF	09.09.30
C	REMOVE -851 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	PH	07.03.08
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	CP	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	14.04.01		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO.		REV. E	
D212-664-141			SHEET 1 OF 5
TITLE		SCALE	
XTUBE ASSY (205/212/412 HI FWD)			NTS
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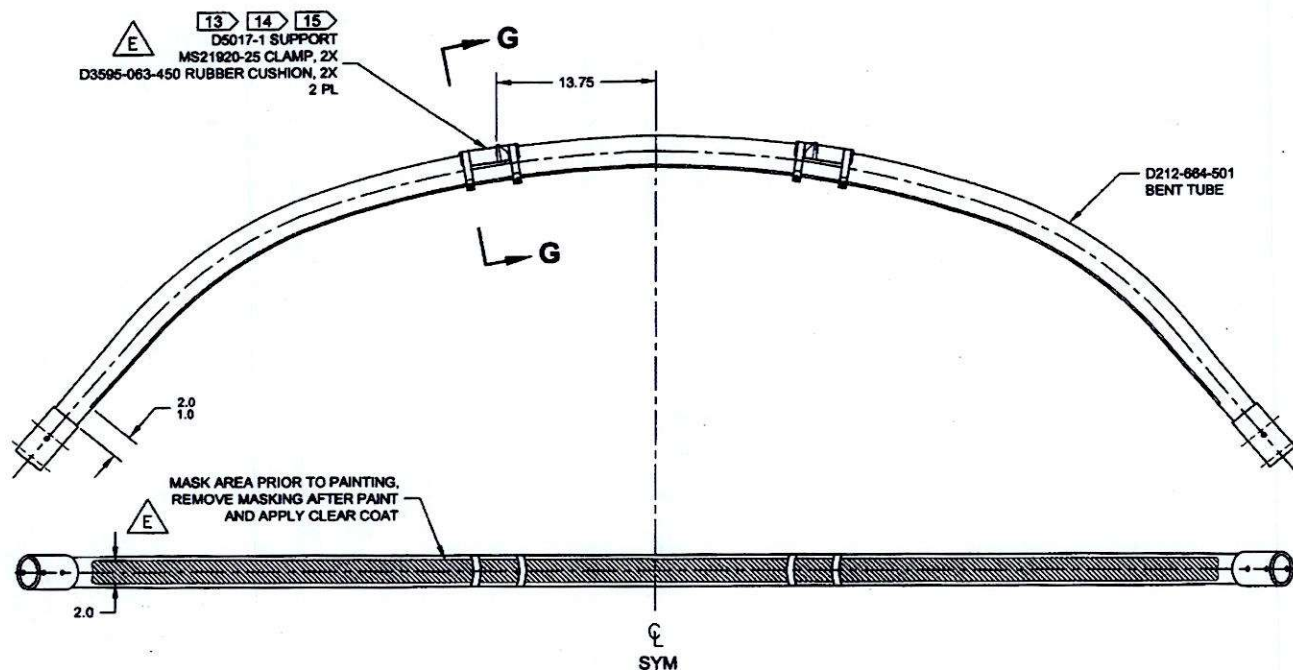


SECTION A-A
SCALE 4X

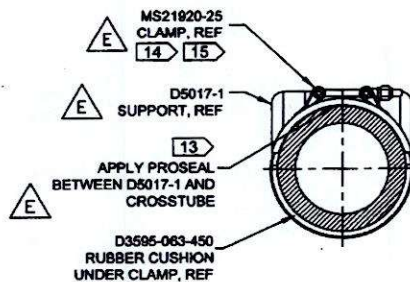
D212-664-141/-141F
ASSEMBLY DETAIL

RELEASED
2014-05-26

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D212-664-141	SHEET 2 OF 5
APPROVED		TITLE	SCALE
DE APPR.		XTUBE ASSY (205/212/412 HI FWD)	NTS
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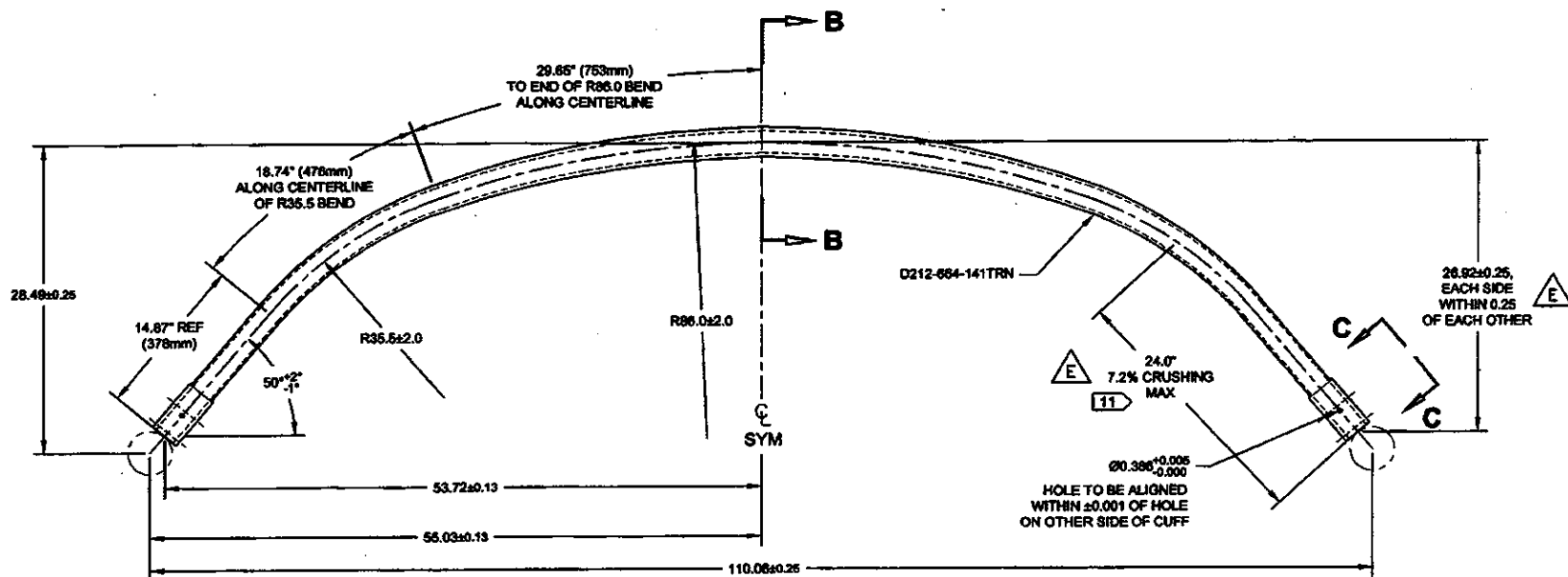
D212-664-141B
ASSEMBLY DETAIL



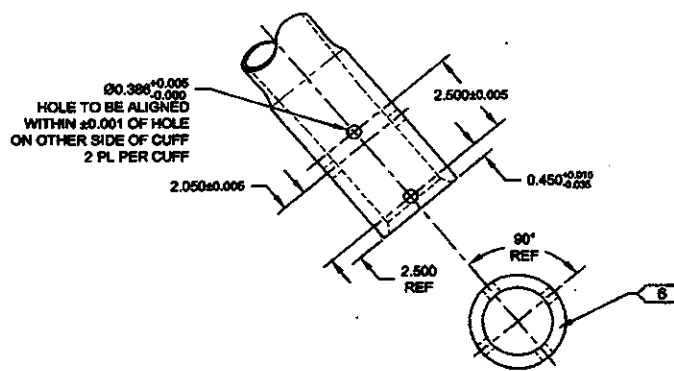
SECTION G-G
 SCALE 4X

RELEASED
 2014-05-26

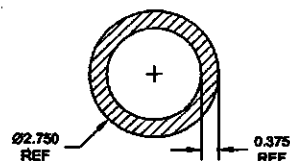
DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D212-664-141	SHEET 3 OF 5
APPROVED		TITLE	SCALE
DE APPR.		XTUBE ASS'Y (205/212/412 HI FWD)	NTS
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D212-664-501
BENDING AND DRILLING DETAIL [11]



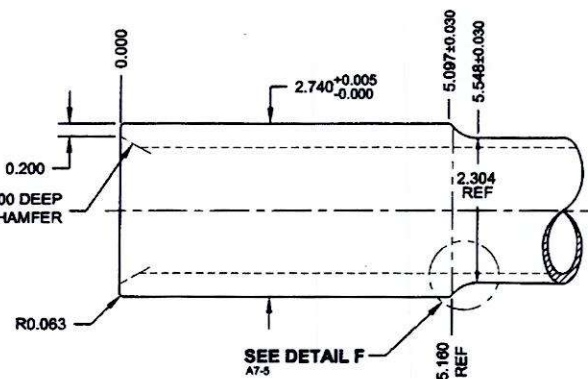
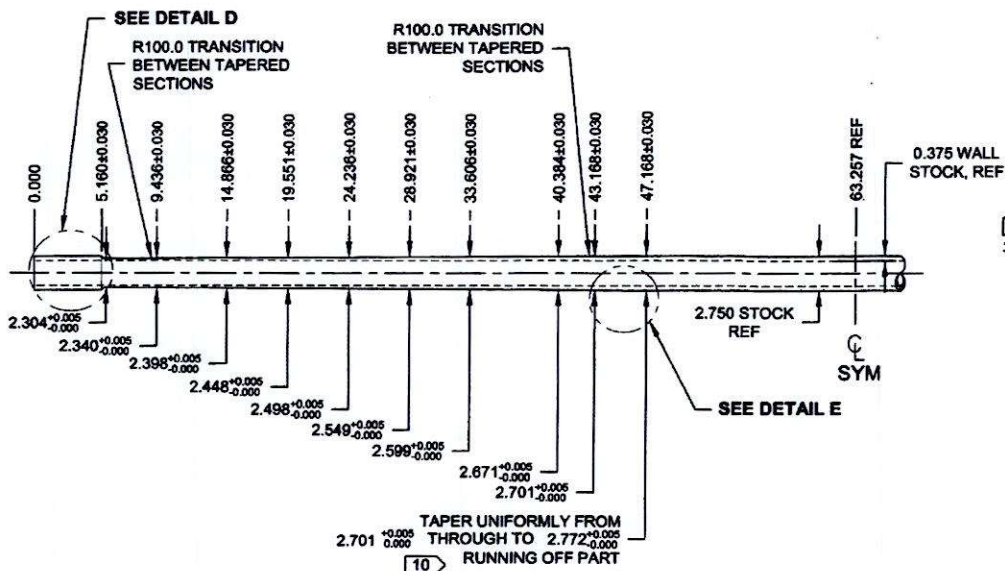
VIEW C-C: CUFF DETAIL
SCALE 3X



SECTION B-B
SCALE 4X

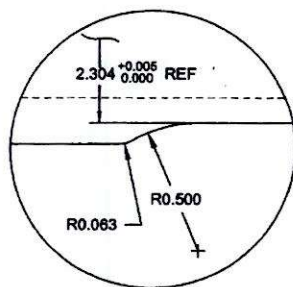
RELEASED
2014-05-26

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CHECKED		DRAWING NO. D212-664-141	REV. E
MFG. APPR.			SHEET 4 OF 5
APPROVED		TITLE XTUBE ASSY (205/212/412 HI FWD)	SCALE
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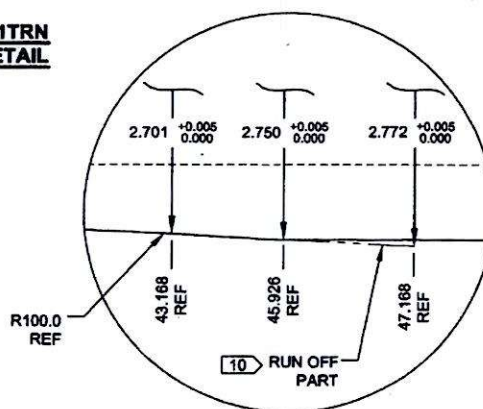


DETAIL D:
CROSSTUBE CUFF
SCALE 5X

D212-664-141TRN
TURNING DETAIL



DETAIL F:
CUFF TRANSITION
SCALE 10X



DETAIL E:
TAPER RUN-OFF
NOT TO SCALE

RELEASED
2014-05-26

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MFG. APPR.		D212-664-141	SHEET 5 OF 5
APPROVED		TITLE	SCALE
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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :	MRB (QSI042)		
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
		Other/Details:			



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **POHB045257**



Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

Attention: Jenne, Heather

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB045257

PO Date: 11/28/19

Due Date: 11/29/19

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Guerin, Kimberley
Phone: 613-632-5200 Ext: 298
kguerin@dartaero.com

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	201477	D212-664-101	D212-664-141/11N-D212-664 E/J	Fwd Crosstube - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA- 316/2015 15/06/17 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	11/29/19	1 pcs	0 pcs	1 pcs	\$208.75/pcs	\$208.75
					XI			NOV 29 2019			DP	
201478					Firmed	-	11/29/19	1 pcs	0 pcs	1 pcs	\$208.75/pcs	\$208.75
201479					Firmed	-	11/29/19	1 pcs	0 pcs	1 pcs	\$208.75/pcs	\$208.75
203702					Firmed	-	11/29/19	1 pcs	0 pcs	1 pcs	\$208.75/pcs	\$208.75
Sub Total:								4	0	4		\$835.00

Grand Total: \$835.00

Guerin



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB045257



Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier

A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 11/29/19 11:27 AM Dart.Guerin.Kimberley

**skyservice****Work Order Traveler**

Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO42710	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: POHB045257
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:

CARRY OUT NDT ON 4 FWD CROSSTUBES P/N# D212-664-101 , J/S# 201477 , 201478 , 201479 , 203702 ✓

**DAS
40
9-89**

Action Taken:	Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-16 ***NO CRACK FOUND*** PEN. ZL-67, MPO25403, CLEANER SKC-S MPO13923 , DEV. MPO11715 , UV LIGHT M-20142	NOV 29 2019	

Miscellaneous AD Review Performed: ☐ No applicable AD's noted ☐ Refer to action taken for applicable AD's

Description	Location	P/N	Qty	Batch	S/N Off	S/N On

RECEIVED

NOV 29 2019

DART AEROSPACE LTD.

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	ACA/SCA Stamp 	Date: NOV 29 2019
Name: RAFIK MELIKIAN		